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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/659,926	09/12/2000	David Salt	2002645-0003	5915

7590 06/06/2002

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EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 06/06/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/659,926

Applicant(s)

SALT ET AL.

Examiner

Medina Ibrahim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2000 and 18 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-48 is/are pending in the application.
- 4a) Of the above claim(s) 8,10-21 and 23-47 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9,22 and 48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

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DETAILED ACTION

Election/Restriction

1. Applicant's election of Group I in Paper No. 9 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). The restriction is made FINAL.

Claims 1-48 are pending.

Claims 1-7, 9, 22, and 48 are under examination.

Claims 8, 10-15, 16-21, and 23-47 are withdrawn from consideration as being drawn to a non-elected invention.

Sequence Listing

No sequences are filed with this application.

Information Disclosure Statement

No IDS has been filed with this application

Drawings

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed. See, attached Notice of Draftsperson.

Claim Rejections - 35 USC § 112, 2nd paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 9, 22, and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "characterized by" renders the claim indefinite because it is unclear what other characteristics the plant might possess. Since "characterized by" is not a commonly used phrase, it is suggested that "characterized by" is replaced with ---having---. Also, "significant" is a relative term lacking comparative basis. Dependent claims 2-7, 9, and 22 are included in the rejection.

In between claims 2 and 3, "Already said" should be deleted as the phrase does not relate to either claim.

Claim 7 is indefinite because it recites an improper Markush terminology. It is suggested that "and" before "*Brassica Carinata*" is replaced with ---or---. Also "*Oleralea*" and "*Carinata*" should be changed to ---*oleralea*--- and ---*carinata*---, respectively; and ---a--- should be inserted before "member". In addition, the period before "juncea" should be deleted.

Claims 9 and 48 are indefinite for failing to recite the steps for incorporating the harvested plant portions into a processed food or a nutritional supplement, respectively.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 9, and 48 rejected under 35 U.S.C. 102(b) as being anticipated by IP et al

(Nutrition and Cancer, vol. 20, no. 2, pp. 129-137, 1993 (U))

Claims are drawn to a method of producing an edible plant whose edible portions comprise significant concentrations of selenium comprising growing a crop plant with an ability to accumulate Se in its edible portion in a Se containing environment, harvesting the edible portions, and incorporating the harvested portions into a processed food or into a nutritional supplement.

IP et al disclose a method of producing high Se-garlic plant, the method comprising cultivating garlic in soil environment, fertilizing the growing garlic with selenite, harvesting mature garlic plants with high Se content, and processing said harvested plants for use of a dietary supplementation (see whole document, especially page 131).

Claims 1-7, 9, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Stoewsand et al (Cancer Letters, vol. 45, pp. 43-48, 1989(V)).

Stoewsand teaches a method of producing Brussels sprouts of *Brassica oleralea* with increased selenium content by using the instantly claimed method steps. Plants were grown in soil medium into which selenite fertilizer was added. At maturity, the sprouts were harvested, dried, milled, mixed and incorporated into food (see whole document, especially page 44).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-7, 9, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raskin et al (US 5, 364, 451, filed June 1993 (A)) in view of Stoewsand et al ((Cancer Letters, vol. 45, pp. 43-48, 1989(V)).

Raskin et al disclose a method that uses Brassica species to remove metals including selenium from soil environment, the method comprises cultivating *B. juncea* or *B. carinata* in said soil under soil conditions sufficient for the plant to accumulate said metal in harvestable portions of the plant. Raskin teaches manipulating the soil to increase metal availability to the plant. The reference also teaches that the rate of metal accumulation depends on variety of factors such as the ratio of soluble and insoluble metal in the soil, total metal concentration, soil type, pH, and fertilizer use. While Raskin uses the same plant species and the same metal as in the instantly

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claimed methods, Raskin does not disclose the incorporation of the harvested portions into a processed food or into a nutritional supplement.

Stoewsand teaches *Brassica oleracea* with increased selenium content incorporated into a processed food or into a nutritional supplement as discussed above. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the same method taught by Raskin et al, and modify that method by incorporating the step of processing the harvested plant portions into a processed food or a nutritional supplement as taught by Stoewsand. Applicants please note that both methods use the same plant species and the same metal. Thus, the claimed invention as whole was clearly *prima facie* obvious.

6. Claims 1-7, 9, 22, and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Raskin et al in view of Stoewsand as applied to claims 1-7, 9, and 48 above, and further in view of Applicant's admitted prior art.

Raskin in view of Stoewsand teach a method for producing Brassica plants with high selenium content in edible portions of the plant, and processing said edible portions into a nutritional supplement as discussed above. While Raskin in view of Stoewsand do not teach the accumulated selenium in the form of methylselenocysteine, it is known in the prior art that the major Se-containing compound in Se-accumulator species is the Se- methylselenocysteine as evidenced by Applicant's admitted prior art (page 15, lines 26-30). Therefore, one of ordinary skill in the art at the time the invention was made would expect that the majority of the

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accumulated selenium compound in the accumulator plant would be in the form of Se-methylselenocysteine.

Double Patenting

The non-statutory double patenting rejection, whether of the obviousness-type or non-obviousness-type, is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7, 9, 22, and 48 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-21 of the US Pat# 6, 117, 462. Although the conflicting claims are not identical, they are not patentably distinct from each other

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because the novelty of the claimed invention is the use of Brassica species (*B. juncea*, *B. oleracea*, *B. carinata*) to accumulate high content of selenium in their edible portions for use into a processed food or into a nutritional supplement. Thus, it would have been obvious to one of ordinary skill in the art to use the specified Brassica plants to accumulate high concentrations of selenium by manipulating soil conditions. Therefore, the subject matter instantly claimed which is a method of providing a nutritional supplement or producing specific Brassica species with an edible portion having significant concentrations of selenium, and harvesting the edible portions for use into a processed food or nutritional supplement, would have been obvious over the subject matter claimed, a method of producing nutritional supplements by growing Brassica plants in a growth environment with an inducing agent, for the plant to hyperaccumulate a nutritionally significant amount of selenium in its edible portions, harvesting said portions to produce a nutritional supplement, in the patent.

Remarks

No claim is allowed.

Papers relating to this application may be submitted to Technology Sector 1 by facsimile transmission. Papers should be faxed to Crystal Mall 1, Art Unit 1638, using fax number (703) 308-4242. All Technology Sector 1 fax machines are available to receive transmissions 24 hrs/day, 7 days/wk. Please note that the faxing of such papers must conform with the Notice published in the Official Gazette, 1096 OG 30, (November 15, 1989).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina a. Ibrahim whose telephone number is (703) 306-5822. The Examiner can normally be reached Monday -Tuesday from 8:00AM to 4:00PM and Wednesday-Thursday from 9:00AM to 3:00 PM .

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218.

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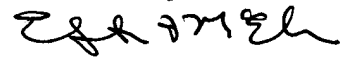
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Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0196.

May 29, 2002

mai

ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1800

A handwritten signature in cursive script, appearing to read "Elizabeth F. McElwain", written in black ink.